



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

*Mr*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/262,000 03/05/99 KONG

S CS98-076

EXAMINER

MMC2/0309

GEORGE O SAILE  
STEPHEN B ACKERMAN  
20 MCINTOSH DRIVE  
POUGHKEEPSIE NY 12603

VICKRODT, J

ART UNIT

PAPER NUMBER

2822

DATE MAILED:

03/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/262,000

Applicant(s)

KONG ET AL.

Examiner

Jeff Vockrodt

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 April 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-21 and 23-32 is/are allowed.
- 6) ☒ Claim(s) 1-7, 22 and 33-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

## **DETAILED ACTION**

This is the first office action on the merits. This application was filed March 5, 1999.

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The subject matter of claims 8-32 is not described in the specification.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 & 5 recite the limitation "optical interference layer". There is insufficient antecedent basis for this limitation in the claim.

Claims 3 & 4 recite the limitation "optical interference multilayer stack". There is insufficient antecedent basis for this limitation in the claim.

Claim 22 appears to depend upon claim 17 and will be treated as such in this office action, but must be amended to include its dependency.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 5, 6, 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Moore et al (US 6,051,446).

Moore et al teach a liquid crystal light valve utilizing an insulating layer 332 to form the support pillars 305 (Fig. 3CC) for positioning the silicon wafer relative to a transparent wafer for forming a liquid crystal cell. An optical interface layer 321 of oxide which enhances the reflectance of the electrode is formed on the electrode (col. 6, ll. 62-67).

Re claim 5, the thickness of the optical interference layer is 1600 angstroms.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (US 6,051,446) in view of Lee (US 4,827,870).

Moore et al teach the device as applied to claims 1, 2, 5, 6, and 33 above, but does not teach forming the optical interference layers using PECVD. Lee teaches that PECVD is the preferred method of coating optical interference layers of silicon oxide which allows for uniformity tolerances within a few percent of the wavelength of visible light (col. 2, ll. 6-12). It would have been obvious to one of ordinary skill in the art at the time of the invention to use PECVD to form the layer 321 in the method taught by Moore et al to form a layer with enhanced uniformity tolerances as taught by Lee.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (US 6,051,446) in view of Sato et al (US 5,379,139).

Moore et al teach the device as applied to claims 1, 2, 5, 6, and 33 above, but does not teach a thickness of the alignment post from 0.3-5 microns. Sato et al show a LCD apparatus having a liquid crystal cell thickness of 2.5 microns (col. 3, ll. 23-26) is suitable for ferroelectric liquid crystal devices. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the thickness of the alignment post taught by Moore et al so that the liquid crystal cell thickness is 2.5 microns because this is a suitable thickness for ferroelectric liquid crystal devices as taught by Sato et al.

Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al (US 6,051,446) in view of Wright et al (US 5,801,800).

Moore et al teach the device as applied to claims 1, 2, 5, 6, and 33 above, but does not teach bonding pads on the silicon body having wires attached and connected to external contacts for the control logic and power and the glass

cover not over the bonding pads. Wright et al show bond pads 26 at the periphery of the LCD array for connecting to external circuits. It would have been obvious to one of ordinary skill in the art at the time of the invention to include bond pads at the periphery of the LCD array in the device taught by Moore et al, so that the LCD could be connected to outside circuitry as taught by Wright et al.

***Allowable Subject Matter***

Claims 8-21 and 23-32 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Vockrodt whose telephone number is (703) 306- 9144. The examiner can normally be reached on Monday through Friday, from 9 :30 Am to 3 :00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (703) 308-4940. The fax phone number for this Group is (703) 305-3432 or (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

March 5, 2001



Stephen D. Meier  
Primary Examiner